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High School Student Sessions at Academic Conferences in Japan: Status and Participant Attributes

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Abstract

In the Japanese education system, the 2018 revision of the High School Curriculum Guidelines emphasized inquiry-based cross-disciplinary study, encouraging students to engage in substantive research and presentation activities beyond the classroom. This study aims to clarify the current status of high school student sessions at academic conferences in Japan and to investigate the attributes of the presenting schools. A two-part survey was conducted: (1) Analysis of websites of leading Japanese academic societies to identify those holding high school student sessions; (2) Examination of programs and affiliated schools of presenters in these sessions, linking them with official school data to analyze school types, locations, and participation patterns. Results showed that high school sessions mainly exist in natural science fields, with participating high schools including both public and private institutions, and the geographic spread expanding beyond metropolitan Tokyo. Many schools participate only once, while about 20% engage repeatedly, indicating varied continuity. This study offers novel data on Japanese high school students' academic presentations, an area rarely examined in Educational Data Science or Library and Information Science. It contributes to clarifying high school students' academic communication practices. It provides foundational insights for academic societies and universities hosting academic conferences to consider whether to open their events to high school students.

Keywords: Academic Conference, Student Presentation Session, High School Students, Inquiry-Based Learning

1 Introduction

In recent years, rapid advances in information technology, AI, and globalization have transformed society. In response, Japanese education has shifted from teacher-centered models toward learner-centered approaches emphasizing autonomy and critical thinking. Students are encouraged to identify issues, collect and analyze diverse information, and solve problems through logical reasoning and creative inquiry.

In Japan, the "High School Curriculum Guidelines" established by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) define national standards for secondary education. These guidelines have been repeatedly revised to reflect social and technological de-

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velopments. The 2018 revision renamed the "Period for Integrated Studies" as the "Period for Inquiry-Based Cross-Disciplinary Study," marking a qualitative shift from general "active learning" to more substantive inquiry-based learning. This reform aims to foster students' capacity for investigation, reflection, and interdisciplinary thinking, while encouraging collaboration with external institutions and extending learning beyond the classroom [1][2].

Within this framework, students conduct inquiry-based projects typically following four stages: task setting, information gathering, data analysis, and presentation of findings. Public presentation opportunities have increased. Such opportunities include regional and national events organized by municipalities, educational institutions, and private companies—examples include the *Minato Ward Inquiry-Based Learning Presentation Event* [3], and the *National Inquiry Contest* hosted by the Benesse Group [4]. Notably, the number of academic-level presentations at scholarly conferences, particularly in sciences, has also grown [5]. These developments highlight the growing role of research presentations in enhancing inquiry-based learning and cultivating proactive, independent learners. However, while opportunities for inquiry-based learning and research presentations have expanded, little is known about the actual extent to which high school students are involved in academic conferences in Japan.

2 Literature Review and Study Objective

The following is a list of related studies. Several studies conducted in Japan and abroad have empirically demonstrated the educational benefits of high school students presenting their research at academic conferences and similar venues. These studies show that such experiences foster students' motivation, confidence, and understanding of academic research.

2.1 Educational Study on Academic Presentations by High School Students in Japan

Shimizu and Mitsugi [6] conducted questionnaires and interviews with 16 high school students who participated in the High School Student Research Presentations at a joint scientific conference in Kyushu. Most students regarded the experience as valuable and reported that receiving comments from experts positively influenced their investigative attitudes and motivation.

Toyama and Ito [7] surveyed high school students participating in the first Citizen Co-Creation Knowledge Study Meeting held in 2016. The results indicated high satisfaction during both preparation and presentation phases, with students recognizing the significance of engaging in an academic symposium. They gained diverse learning experiences and reported that participation positively affected their future career choices.

2.2 Educational Study on Academic Presentations by High School Students Outside Japan

In the international context, numerous studies have examined the educational value of involving high school students in academic conferences and research dissemination activities. These studies consistently report that such experiences help enhance students' self-efficacy, scientific literacy, and communication abilities.

Rushton et al. [8] examined the impact of presenting independent research projects (IRPs) among science students from four UK high schools. Focus group discussions revealed that

conference participation offered a professional and authentic experience, fostering students' confidence, communication skills, and sense of identity as young researchers. Moreover, the experience enhanced their understanding of the scientific research process, particularly in terms of peer review and feedback, which are often absent in regular school settings.

Gallant et al. [9] analyzed the outcomes of STEM outreach conferences held at Canadian universities between 2016 and 2018, involving 184 high school students. Their findings indicated significant increases in students' confidence to pursue higher education and stronger interest in STEM-related fields. Notably, these positive effects were especially pronounced among first-generation students whose parents lacked higher education experience, suggesting that such outreach efforts may help reduce educational inequality.

Inbar et al. [10] described a science conference initiative in Israel that actively included local high school students aged 16–18. Through qualitative interviews, the study revealed that interacting with graduate students and faculty members provided the participants with access to advanced academic discourse and authentic learning contexts. These encounters not only deepened their understanding of scientific inquiry but also motivated them to consider pursuing research-oriented careers. Interestingly, for the university participants, engagement with high school students served as an opportunity to re-examine their own communication strategies and the social relevance of their research, creating a mutually beneficial learning environment.

Previous studies in Japan and abroad have shown that high school students' participation in academic conferences and research presentation meetings and giving presentations effectively deepens their knowledge and increases their motivation to learn, and in psychological aspects, such as fostering career awareness and gaining confidence.

2.3 Library and Information Science Study on High School Students' Research Activities

Research has also been conducted on the potential for Japanese high school students to engage in university-level research activities, as well as on the role of university libraries in supporting such activities.

Ono et al. [11] conducted focus group interviews with high school students who had access to university libraries, finding that access alone did not guarantee effective utilization or advanced research outcomes. Ono and Uda [12] analyzed 89 papers written by students at Super Global High Schools (SGH) institutions designated by MEXT to promote global and exploratory learning. The analysis showed that some students successfully used academic papers and university-level materials in their research. Subsequent follow-up interviews with working adults [13][14] revealed that those who conducted advanced research and used university libraries in high school maintained strong information-gathering skills in later academic and professional contexts.

However, these studies raised several questions: Are opportunities for advanced research limited to private or metropolitan schools? And how many academic societies in Japan actually allow high school students to present their research? Most prior work examined individual cases or small-scale conferences, leaving the overall situation across multiple societies unexplored.

2.4 Study Objective

Therefore, this study aims to obtain evidence to help resolve these questions by understanding the actual situation of high school student sessions at academic conferences in Japan and investigating the high schools to which students who give presentations belong.

3 Methodology

We conducted two surveys: (1) identifying academic societies in Japan that host high school student sessions, and (2) analyzing the school affiliations of student participants.

3.1 Survey 1: Identifying Academic Societies in Japan with High School Student Sessions

This survey examined the extent to which major academic societies in Japan hold sessions for high school students.

Many academic societies offer reduced or waived membership and conference fees for high school students, generating minimal revenue from this demographic. Given the financial burden of organizing high school student sessions, such initiatives are feasible primarily for financially stable organizations. Therefore, this survey focused on large academic societies with more than 2,000 individual members.

Academic societies were selected from the "Directory of Academic Societies" [15], the largest database of academic societies in Japan, operated by the Science Council of Japan and containing information on over 2,100 registered organizations.

Organizations with more than 2,000 individual members as of July 2025 were extracted from the database. The selection was limited to organizations whose names end with "Gakkai" (academic society) and had listed official website URLs, thereby excluding federations of academic societies. Using Google Custom Search JSON API, pages matching the search query "(high school students OR junior high and high school students OR junior) AND presentation" were automatically retrieved, with the "inurl:" parameter restricting searches to official academic society website domains. The top ten webpages in each search result were manually reviewed to compile a list of academic societies with a track record of conducting high school student sessions.

3.2 Survey 2: Identifying Schools Represented in High School Student Sessions

From the academic societies identified in Survey 1, we compiled a list of schools attended by student presenters at conferences holding high school student sessions in 2025. Target societies were selected based on two criteria: (1) continuous organization of high school student sessions for more than 10 years, and (2) publication of complete lists of presentation titles and affiliated schools in tabular form for each year.

Programs for high school student sessions were obtained from the webpages of the targeted academic societies' annual conferences. School names listed in the author affiliation columns were extracted from all available years and linked with the open data "List of School Codes"[16], which enumerates Japanese school information. This linkage enabled analysis of detailed institutional characteristics including school type, location region, and prefecture.

A manual approach was required due to several methodological challenges. High school student sessions are often organized as special tracks, and their proceedings are frequently not indexed in cross-disciplinary databases such as Google Scholar. Even when proceedings were available, author affiliations typically listed only the school name, preventing differentiation between students and faculty members. In addition, presentation lists were not uniformly published, as some societies disclosed only award-winning presentations.

To address these challenges, we systematically collected conference programs explicitly designated as high school student sessions. Abbreviated school names and typographical errors were restored and then cross-referenced with the official List of School Codes. For ambiguous cases, generative AI (Perplexity Pro) was employed to identify the most similar school name. Remaining unmatched entries were manually verified to ensure accurate school affiliation.

From an ethical standpoint, both surveys exclusively utilized publicly available online information. The study did not involve any procedures that could raise ethical concerns or cause potential disadvantages to high school students. In both surveys, the search engine's API and generative AI were used solely as aids for rapid analysis, and ultimately, the researchers manually processed the data. Therefore, there are no concerns about accuracy due to the use of these tools.

4 Results and Discussion

4.1 Survey 1: Results of Websites Analysis of Large-Scale Academic Societies in Japan

First, academic societies with more than 2,000 members were extracted from the Directory of Academic Societies, resulting in 99 organizations selected for analysis. Next, the official websites of these societies were systematically examined to identify whether they hosted sessions for high school students. As summarized in Table 1, 17 societies (17.1%) were found to have organized such sessions at recent annual conferences. Among these, seven societies explicitly permitted participation by junior high school students as well.

High school student sessions have been confirmed in a wide range of natural science-related academic societies. For example, academic societies that include the names of subjects found in Japanese high school education, such as “The Association of Japanese Geographers” or “The Physical Society of Japan,” are expected to be more easily recognized by high school students as venues for presenting the results of their exploratory studies. Interestingly, sessions were also observed in more specialized fields, such as the Molecular Biology Society of Japan and the Japanese Society of Plant Physiologists, whose disciplinary names are not directly represented in high school subjects. The presence of such sessions may increase students’ awareness of these specialized domains and help broaden their perspectives when considering future academic pathways.

Although many major Japanese academic societies are active in the medical and healthcare fields, evidence of high school student sessions in these societies was scarce. This suggests that integrating student presentations into professional conferences—often attended primarily by physicians and researchers—poses practical challenges. However, it was indirectly confirmed that workshops and exchange events targeting high school students also occurred at these medical and healthcare academic conferences. Although organizing presentation sessions for high

school students remains challenging, these findings suggest that medical and healthcare societies are nevertheless making efforts to engage students in academic fields from an early stage.

Additionally, ten societies were identified as having held high school student sessions only intermittently in past years. These were likely special or trial initiatives that did not become regular components of their annual conferences.

Table 1: Large academic societies with confirmed existence of high school student sessions

Name of academic society	Eligibility: High school students	Eligibility: Junior high school students	URLs where high school student sessions were confirmed to exist in the most recent year
THE ROBOTICS SOCIETY OF JAPAN	Yes		https://www.rsj.or.jp/event/openforum/2024/
THE MOLECULAR BIOLOGY SOCIETY OF JAPAN	Yes		https://www.mbsj.jp/activity/highsch_presentation.html
The Physical Society of Japan	Yes	Yes	http://www.gakkai-web.net/butsuri-jrsession/
Astronomical Society of Japan	Yes	Yes	https://www.asj.or.jp/jsession/next.html
THE GEOLOGICAL SOCIETY OF JAPAN	Yes	Yes	http://geosociety.jp/name/content0032.html
THE JAPANESE BIOCHEMICAL SOCIETY	Yes		https://www.jbsoc.or.jp/notice/meeting-2025-06-03.html
THE JAPANESE FOREST SOCIETY	Yes		https://www.forestry.jp/news/topic/%E7%AC%AC13%E5%9B%9E%E9%AB%98%E6%A0%A1%E7%94%9F%E3%83%9D%E3%82%B9%E3%82%BF%E3%83%BC%E7%99%BA%E8%A1%A8/
THE JAPANESE SOCIETY OF PLANT PHYSIOLOGISTS	Yes		https://jspp.org/hiroba/high_school/
The Meteorological Society of Japan	Yes	Yes	https://www.metsoc.jp/about/educational_activities/junior_session/junior_session_2025/program
Japan Society for Bioscience, Biotechnology, and Agrochemistry	Yes		https://www.jsbba.or.jp/2024/program/junior.html
THE ASSOCIATION OF JAPANESE GEOGRAPHERS	Yes		https://www.ajg.or.jp/hsp/
THE JAPANESE SOCIETY OF FISHERIES SCIENCE	Yes		https://jsfs.jp/act/annual-meeting/high_school_student/
THE JAPAN INSTITUTE OF METALS AND MATERIALS	Yes		https://jimm.jp/event/lecture/2025autm/collect-06.html
The Institute of Electronics, Information and Communication Engineers	Yes	Yes	https://www.ieice.org/jpn_r/activities/taikai/general/2025/ps.html
THE INSTITUTE OF ELECTRICAL ENGINEERS OF JAPAN	Yes	Yes	https://www.iee.jp/u-21-2024/
INFORMATION PROCESSING SOCIETY OF JAPAN	Yes	Yes	https://www.ipsj.or.jp/event/event_chukousei.html
THE SOCIETY OF CHEMICAL ENGINEERS, JAPAN	Yes		https://www.scej.org/education/higher/student-meeting.html

4.2 Survey 2: Analysis of School Affiliations of Students Presenting in High School Student Sessions

Based on the above criteria, two academic societies were selected for analysis: the Japanese Forest Society [17] and the Meteorological Society of Japan [18]. The former has held high school student poster sessions since 2014, and the latter has conducted junior sessions since 2015; both have accumulated over ten years of experience organizing these sessions. Although the Meteorological Society of Japan allows participation by middle school students, this study excluded presentations consisting solely of middle school participants.

Tables 2 and 3 show the number of presentations made by high school students in each society, categorized by school affiliation. These tables list the schools where the presenters were affiliated and provide school information in the three leftmost columns. Then, the number of presentations from these schools is displayed in each cell for each year, and the rightmost column shows the total number of times each school has participated throughout the entire period. Tables 4 and 5 present the number of schools by prefecture from which presenters originated each year.

Table 2: The number of presentations made by high school students in the sessions, categorized by the high school to which they belong (The Japanese Forest Society)

			Conference Year and Location												
			2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Number of times participated
School Code	Prefecture	Type of school	Tokyo	Hokkaido	Kanagawa	Kagoshima	Kochi	Niigata	Online	Online	Online	Online	Tokyo	Hybrid (Hokkaido)	
D101220400064	Hokkaido	Public	2	2	2	1	2	2	2	0	0	0	0	0	7
D101210100031	Hokkaido	Public	0	1	1	0	0	0	0	0	0	0	0	0	2
D101210800016	Hokkaido	Public	0	1	0	0	0	0	0	0	0	0	0	0	1
D101221000039	Hokkaido	Public	0	1	1	1	1	1	1	0	0	0	0	0	6
D101220700043	Hokkaido	Public	0	1	0	0	1	0	0	0	0	0	1	1	4
D101210100022	Hokkaido	Public	0	1	0	0	0	0	0	0	0	0	0	0	1
D101263200011	Hokkaido	Public	0	0	0	0	0	0	0	0	0	0	0	1	1
D101269300017	Hokkaido	Public	0	0	0	0	0	0	0	0	0	0	0	1	1
D101260100018	Hokkaido	Public	0	0	0	0	0	0	0	0	0	0	0	1	1
D101321700101	Hokkaido	Private	1	1	0	0	0	0	0	0	0	0	0	0	2
D102210000273	Aomori	Public	1	1	1	1	1	1	0	0	0	0	0	0	6
D102310000066	Aomori	Private	0	0	0	0	0	0	0	0	1	0	0	0	1
D103210000101	Iwate	Public	2	0	0	0	0	0	0	0	0	0	0	0	1
D103210000655	Iwate	Public	0	0	0	0	0	0	1	0	0	0	0	0	1
D104212070012	Miyagi	Public	0	0	0	0	0	1	1	1	0	0	0	0	3
D104212090018	Miyagi	Public	0	0	0	0	0	0	0	1	1	0	0	0	2
D104211020015	Miyagi	Public	0	0	0	0	0	0	0	0	0	0	0	1	1
D105220158019	Akita	Public	0	0	0	0	1	0	1	0	0	0	0	0	2
D106220850019	Yamagata	Public	0	0	0	0	0	0	0	0	0	2	0	0	1
D109210000249	Tochigi	Public	0	0	0	0	0	1	1	2	0	0	0	0	3
D109210000203	Tochigi	Public	0	0	0	0	0	0	0	0	1	0	0	0	1
D109210000604	Tochigi	Public	0	0	0	0	0	0	0	0	0	0	0	1	1
D109310000103	Tochigi	Private	0	0	0	0	0	0	0	0	0	1	0	0	1
D109310000014	Tochigi	Private	0	0	0	0	0	0	0	0	0	0	1	0	1
D210210000012	Gunma	Public	1	0	1	1	0	0	0	0	0	0	0	0	3
D110210000157	Gunma	Public	3	0	2	0	0	0	0	1	0	2	2	2	6
D110210000442	Gunma	Public	0	0	0	0	0	0	2	1	1	1	1	0	5
D110210000424	Gunma	Public	0	0	0	0	0	0	0	0	2	0	0	0	1
D110210000638	Gunma	Public	0	0	0	0	0	0	0	0	0	0	1	0	1
D111110000014	Saitama	National	1	1	0	0	0	0	0	0	0	0	0	0	2
D111210000815	Saitama	Public	2	0	2	0	0	0	0	0	1	0	0	0	3
D111210000478	Saitama	Public	1	0	0	0	0	0	0	0	0	0	0	0	1
D111210000735	Saitama	Public	2	0	0	0	0	0	0	0	0	0	0	0	1
D111210000138	Saitama	Public	0	0	0	0	0	0	2	0	0	0	0	0	1
D111210000432	Saitama	Public	0	0	0	0	0	0	0	0	1	1	0	0	2
D111210001020	Saitama	Public	0	0	0	0	0	0	0	0	1	1	0	0	2
D111210000085	Saitama	Public	0	0	0	0	0	0	0	0	1	1	0	0	2
D111210000753	Saitama	Public	0	0	0	0	0	0	0	0	1	1	0	0	2
D111210000593	Saitama	Public	0	0	0	0	0	0	0	0	1	1	0	0	2
D111210000245	Saitama	Public	0	0	0	0	0	0	0	0	1	0	0	0	1
D111210000334	Saitama	Public	0	0	0	0	0	0	0	0	1	0	0	0	1
D111322200013	Saitama	Private	0	1	1	0	0	0	0	0	0	0	0	0	2
D111321200015	Saitama	Private	0	0	0	0	0	0	0	0	0	0	2	0	1
D112310000536	Chiba	Private	0	0	0	0	0	0	0	0	0	0	1	0	1
D213110000011	Tokyo	National	0	0	0	0	0	0	1	0	0	0	0	0	1
D113110000067	Tokyo	National	0	0	0	0	0	0	0	0	0	0	1	0	1
D113299906241	Tokyo	Public	2	0	3	0	1	2	2	1	0	4	2	1	9
D113299911011	Tokyo	Public	1	0	1	1	2	0	2	0	1	1	0	0	7
D113299909177	Tokyo	Public	1	1	3	0	0	0	0	0	0	0	0	0	3
D113299906027	Tokyo	Public	1	0	0	0	0	0	0	0	0	0	0	0	1
D113299905064	Tokyo	Public	1	0	1	1	1	1	1	0	0	0	0	0	6
D113299908132	Tokyo	Public	2	0	0	0	0	0	0	0	0	0	0	0	1
D113299901111	Tokyo	Public	0	1	0	0	0	0	0	0	0	0	0	0	1
D113299914018	Tokyo	Public	0	0	1	1	0	1	1	0	0	0	0	0	4
D113299905073	Tokyo	Public	0	0	1	0	0	0	0	0	0	0	0	0	1
D113299903057	Tokyo	Public	0	0	0	0	0	0	1	0	0	0	0	0	1
D113299910138	Tokyo	Public	0	0	0	0	0	0	0	1	0	0	0	0	1
D113299909104	Tokyo	Public	0	0	0	0	0	0	0	2	1	3	0	2	4
D113299903100	Tokyo	Public	0	0	0	0	0	0	0	0	0	1	0	0	1
D113310400014	Tokyo	Private	0	1	0	0	0	0	1	0	2	0	0	0	3
D113320400013	Tokyo	Private	0	0	1	0	0	0	0	0	0	0	0	0	1
D113311300013	Tokyo	Private	0	0	1	0	0	0	0	0	0	0	0	0	1
D113310300131	Tokyo	Private	0	0	1	0	0	0	0	1	0	0	0	0	2
D113311200201	Tokyo	Private	0	0	1	0	0	0	0	0	0	0	0	0	1
D113312000050	Tokyo	Private	0	0	0	0	0	1	0	0	0	0	0	0	1
D113320900045	Tokyo	Private	0	0	0	0	0	1	0	0	0	0	0	0	1
D113321100014	Tokyo	Private	0	0	0	0	0	0	1	0	0	0	0	0	1
D113321000024	Tokyo	Private	0	0	0	0	0	0	0	0	0	0	1	1	2

			Conference Year and Location												
			2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Number of times participated
School Code	Prefecture	Type of school	Tokyo	Hokkaido	Kanagawa	Kagoshima	Kochi	Niigata	Online	Online	Online	Online	Tokyo	Hybrid (Hokkaido)	
D114210020088	Kanagawa	Public	0	0	1	1	3	2	1	0	0	0	0	0	5
D114220310022	Kanagawa	Public	0	0	1	0	0	0	0	0	0	0	0	0	1
D114221210012	Kanagawa	Public	0	0	0	0	0	0	0	0	0	0	0	1	1
D114236610016	Kanagawa	Public	0	0	0	0	0	0	0	0	0	0	0	1	1
D114310000062	Kanagawa	Private	0	0	0	0	0	0	1	0	1	2	0	0	3
D114320500075	Kanagawa	Private	0	0	0	0	0	0	0	0	3	0	0	0	1
D114310000071	Kanagawa	Private	0	0	0	0	0	0	0	0	0	0	1	0	1
D115220200015	Niigata	Public	0	0	1	0	0	0	0	0	0	0	0	0	1
D115210000125	Niigata	Public	0	0	0	0	0	2	1	1	0	1	0	0	4
D115310000025	Niigata	Private	0	0	0	0	0	1	0	0	0	0	0	0	1
D116320156034	Toyama	Private	0	0	0	0	0	0	0	0	2	0	0	0	1
D117220200013	Ishikawa	Public	0	0	0	0	0	0	0	1	0	0	0	1	2
D118210000122	Fukui	Public	0	0	0	0	0	0	0	3	0	0	2	0	2
D119210000078	Yamanashi	Public	0	0	0	1	0	0	0	0	0	0	0	0	1
D119210000176	Yamanashi	Public	0	0	0	0	0	0	0	0	1	0	0	0	1
D119310000012	Yamanashi	Private	0	1	1	1	1	0	0	1	0	0	0	0	5
D120243200010	Nagano	Public	1	1	0	0	0	0	0	0	1	0	0	0	3
D120238500017	Nagano	Public	0	0	1	0	0	0	0	0	0	0	0	0	1
D120332100012	Nagano	Private	0	0	0	0	0	0	0	1	0	0	0	0	1
D121242100012	Gifu	Public	0	0	2	1	0	0	0	0	1	0	0	0	3
D121236100014	Gifu	Public	0	0	0	0	1	1	1	0	0	0	0	0	3
D121220100018	Gifu	Public	0	0	0	0	3	0	0	0	0	0	0	0	1
D121220200044	Gifu	Public	0	0	0	0	0	0	1	1	0	0	0	0	2
D121221900027	Gifu	Public	0	0	0	0	0	0	1	0	1	1	1	0	4
D121221100025	Gifu	Public	0	0	0	0	0	0	0	0	0	0	0	1	1
D122210000368	Shizuoka	Public	0	0	0	0	0	0	1	0	0	0	0	0	1
D122310000375	Shizuoka	Private	0	0	0	0	0	0	0	0	0	0	2	0	1
D122310000026	Shizuoka	Private	0	0	0	0	0	0	0	0	0	0	0	2	1
D123210001179	Aichi	Public	1	0	0	0	0	0	0	0	0	0	0	0	1
D123210001080	Aichi	Public	0	1	1	0	0	0	1	0	0	0	0	0	3
D123210001151	Aichi	Public	0	0	0	0	0	0	1	0	0	0	0	0	1
D123210001570	Aichi	Public	0	0	0	0	0	0	2	1	0	0	0	0	2
D123310000043	Aichi	Private	1	0	0	0	0	0	1	0	0	0	0	0	2
D123310000025	Aichi	Private	0	0	0	0	0	0	1	0	0	0	0	0	1
D124310055091	Mie	Private	0	0	1	2	1	2	2	0	0	0	0	0	5
D124310055082	Mie	Private	0	0	0	0	0	0	0	0	0	1	0	0	1
D125220200022	Shiga	Public	0	0	0	0	2	2	1	0	0	0	0	0	3
D126210000113	Kyoto	Public	0	0	1	2	1	0	2	2	0	0	0	0	5
D126210000319	Kyoto	Public	0	0	0	0	0	0	1	2	0	0	0	0	2
D126210000417	Kyoto	Public	0	0	0	0	0	0	1	0	2	2	1	0	4
D126210000658	Kyoto	Public	0	0	0	0	0	0	0	2	0	0	0	0	1
D126210000453	Kyoto	Public	0	0	0	0	0	0	0	0	0	0	1	1	2
D127110000016	Osaka	National	0	0	0	0	0	0	0	0	0	0	0	1	1
D127310000067	Osaka	Private	0	0	0	0	0	0	0	0	0	1	0	0	1
D129210000076	Nara	Public	0	0	0	0	1	0	1	0	0	0	0	0	2
D129210000343	Nara	Public	0	0	0	0	0	0	0	0	1	0	0	0	1
D129310000118	Nara	Private	0	0	0	0	0	1	1	1	0	0	0	0	3
G130110109407	Wakayama	National	0	0	0	0	0	1	0	0	0	0	0	0	1
D131210000116	Tottori	Public	1	0	0	0	0	0	0	0	0	0	0	0	1
D131210000072	Tottori	Public	1	2	0	0	3	1	0	0	0	0	0	0	4
D131210000189	Tottori	Public	0	0	0	0	0	1	0	0	0	0	0	0	1
D131210000125	Tottori	Public	0	0	0	0	0	0	0	0	0	1	0	0	1
D133210000374	Okayama	Public	0	1	1	1	1	0	0	1	0	0	0	0	5
D133210000150	Okayama	Public	0	0	0	0	0	0	0	0	0	0	1	0	1
D134210000024	Hiroshima	Public	0	0	0	0	0	0	0	1	0	1	0	0	2
D134210000738	Hiroshima	Public	0	0	0	0	0	0	0	0	1	0	0	0	1
D135210000498	Yamaguchi	Public	0	0	0	0	0	0	0	0	0	0	0	1	1
D136220800032	Tokushima	Public	0	1	0	0	0	0	0	0	0	0	0	0	1
D136220800014	Tokushima	Public	0	0	0	0	0	0	0	1	0	0	0	0	1
D137234100011	Kagawa	Public	0	0	0	0	0	0	0	0	1	0	0	0	1
D138220100037	Ehime	Public	0	0	0	0	0	0	1	0	0	0	0	0	1
D139210000163	Kochi	Public	1	0	0	0	0	0	0	0	0	0	0	0	1
D139210000216	Kochi	Public	1	1	0	0	2	2	0	0	0	1	2	1	7
D141290000287	Saga	Public	0	0	0	0	0	0	0	1	0	0	0	0	1
D142210000015	Nagasaki	Public	0	0	0	0	0	0	0	0	0	0	0	1	1
D143210000041	Kumamoto	Public	0	1	1	0	0	1	0	0	0	0	0	0	3
D143210000354	Kumamoto	Public	0	0	0	2	0	0	0	0	0	0	0	0	1
D143210000345	Kumamoto	Public	0	0	0	1	0	0	0	0	0	0	0	0	1
D143210000452	Kumamoto	Public	0	0	0	0	0	2	2	3	1	1	1	2	7
D143210000522	Kumamoto	Public	0	0	0	0	0	0	0	2	0	2	2	2	4
D143210000103	Kumamoto	Public	0	0	0	0	0	0	0	0	0	0	1	0	1
D145220160044	Miyazaki	Public	0	1	0	0	0	0	0	0	0	0	0	0	1
D147235000026	Okinawa	Public	0	0	0	0	0	0	0	0	0	0	1	0	1
D147221100052	Okinawa	Public	0	0	0	0	0	0	0	0	0	0	0	1	1

Table 3: The number of presentations made by high school students in the sessions, categorized by the high school to which they belong (The Meteorological Society of Japan)

			Conference Year and Location											
			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Number of times participated
School Code	Prefecture	Type of school	Ibaraki	Tokyo	Tokyo	Ibaraki	Tokyo	Online	Online	Online	Online	Online	Hybrid (Tokyo)	
D101210100013	Hokkaido	Public	0	1	0	0	0	0	0	0	0	0	0	1
D101323400100	Hokkaido	Private	0	2	1	1	1	0	1	0	0	1	0	6
D102210000326	Aomori	Public	0	0	0	0	0	0	1	0	0	0	0	1
D102310000057	Aomori	Private	0	0	0	0	0	1	0	1	0	0	1	3
D103210000290	Iwate	Public	0	0	0	0	0	0	1	0	0	0	0	1
D103210000502	Iwate	Public	0	0	0	0	0	0	1	0	0	0	0	1
D104211030013	Miyagi	Public	0	0	0	0	0	0	0	0	0	1	0	1
D104212090018	Miyagi	Public	0	0	0	0	0	0	0	0	0	0	2	1
D105221056421	Akita	Public	1	0	0	0	0	0	0	0	0	0	0	1
D106220350014	Yamagata	Public	0	0	0	0	0	0	1	0	0	0	0	1
D107254160012	Fukushima	Public	0	0	0	0	0	0	0	0	0	1	0	1
D107320161029	Fukushima	Private	0	0	0	0	0	0	1	1	0	0	0	2
D107321361016	Fukushima	Private	0	0	1	0	0	1	0	0	0	0	7	3
D108220200014	Ibaraki	Public	0	0	0	0	0	0	0	0	0	3	2	2
D108222000021	Ibaraki	Public	0	0	0	0	0	1	0	0	0	0	0	1
D108322000010	Ibaraki	Private	0	0	0	0	0	0	1	0	1	0	0	2
D108322000038	Ibaraki	Private	0	0	0	0	0	0	0	0	0	1	0	1
D208222000011	Ibaraki	Public	1	1	1	0	0	0	0	0	0	0	0	3
D109210000105	Tochigi	Public	0	0	0	0	0	0	0	0	1	0	0	1
D109310000103	Tochigi	Private	2	0	0	0	0	3	0	1	0	0	0	3
D110210000157	Gunma	Public	0	0	0	1	0	0	0	0	0	0	0	1
D210210000012	Gunma	Public	0	0	0	1	0	0	0	0	0	0	0	1
D111210000012	Saitama	Public	1	0	0	1	0	0	1	0	0	0	0	3
D111210000021	Saitama	Public	0	0	0	0	0	1	0	0	0	0	0	1
D111210000049	Saitama	Public	0	0	0	0	0	1	0	0	0	0	0	1
D111210000815	Saitama	Public	1	0	0	0	0	0	0	0	0	0	0	1
D112210000404	Chiba	Public	0	0	0	0	0	0	1	0	1	0	0	2
D112310000073	Chiba	Private	0	0	0	0	0	0	0	0	0	0	4	1
D112310000117	Chiba	Private	0	0	0	0	0	0	0	1	0	0	0	1
D113110000012	Tokyo	National	0	1	0	0	0	0	0	0	0	0	0	1
D113110000021	Tokyo	National	0	0	0	0	1	0	0	0	0	0	0	1
D113110000067	Tokyo	National	0	0	0	0	1	0	0	0	0	0	0	1
D113299902012	Tokyo	Public	4	4	5	0	0	0	0	1	1	1	0	6
D113299905019	Tokyo	Public	0	0	0	0	0	0	0	0	0	0	1	1
D113299906241	Tokyo	Public	0	1	0	0	0	0	1	0	0	0	1	3
D113299908016	Tokyo	Public	0	0	0	0	1	0	4	2	0	1	2	5
D113299909177	Tokyo	Public	0	0	1	0	0	0	0	0	0	0	0	1
D113310100053	Tokyo	Private	0	1	0	0	0	0	0	0	0	0	0	1
D113311000025	Tokyo	Private	0	1	0	0	0	0	0	0	0	0	0	1
D113311200185	Tokyo	Private	0	2	1	1	5	1	3	1	0	0	0	7
D113311600118	Tokyo	Private	0	0	0	0	1	1	0	0	0	0	0	2
D113311700037	Tokyo	Private	0	0	0	0	1	0	0	0	0	0	0	1
D113311700046	Tokyo	Private	0	0	0	0	0	0	0	0	0	0	1	1
D113320100105	Tokyo	Private	0	0	0	0	0	0	0	0	1	0	0	1
D113320800028	Tokyo	Private	0	0	0	0	0	0	0	0	0	0	1	1
D114210020088	Kanagawa	Public	2	1	4	5	12	2	0	0	0	0	0	6
D114220110015	Kanagawa	Public	0	0	0	0	0	0	0	0	1	1	0	2
D114221210012	Kanagawa	Public	0	0	0	0	0	0	0	0	0	0	1	1
D114310000142	Kanagawa	Private	0	0	0	0	1	0	0	0	0	0	0	1
D114320400067	Kanagawa	Private	0	0	0	0	0	1	0	0	0	0	0	1
D114320500011	Kanagawa	Private	0	0	0	0	0	0	0	1	0	0	0	1
D115220200015	Niigata	Public	0	1	0	0	0	0	0	0	0	0	0	1
D115222200011	Niigata	Public	0	0	1	0	1	1	2	0	1	0	0	5
D117220200013	Ishikawa	Public	0	0	0	0	1	0	0	0	0	0	0	1
D118210000104	Fukui	Public	0	0	0	0	0	0	0	0	1	0	0	1
D118210000122	Fukui	Public	0	0	0	0	0	0	1	0	0	0	0	1
D119210000014	Yamanashi	Public	0	0	0	0	0	1	1	0	0	0	1	3
D119210000130	Yamanashi	Public	0	0	1	0	0	0	0	0	2	0	0	2
D120220200018	Nagano	Public	0	0	1	0	0	0	0	0	0	0	0	1
D120220600014	Nagano	Public	0	0	0	0	0	1	0	0	0	0	0	1
D120221800010	Nagano	Public	0	0	0	0	0	0	0	0	1	0	0	1
D121221000017	Gifu	Public	0	0	0	0	0	0	0	0	1	0	0	1
D121320100043	Gifu	Private	0	0	0	0	0	0	0	0	0	0	1	1
D122210000340	Shizuoka	Public	0	0	0	0	1	1	0	0	0	0	0	2
D122210000448	Shizuoka	Public	0	0	0	0	0	0	0	0	0	0	1	1
D122210000698	Shizuoka	Public	0	0	0	0	0	0	0	0	0	0	1	1
D122310000375	Shizuoka	Private	0	0	0	0	0	0	0	0	0	0	1	1
D123210000009	Aichi	Public	0	0	0	0	0	0	0	1	0	0	0	1
D123310000347	Aichi	Private	1	1	3	1	0	0	0	0	0	0	0	4
D124210050338	Mie	Public	0	0	0	1	0	0	0	0	0	0	0	1

			Conference Year and Location											
			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Number of times participated
School Code	Prefecture	Type of school	Ibaraki	Tokyo	Tokyo	Ibaraki	Tokyo	Online	Online	Online	Online	Online	Hybrid (Tokyo)	
D126210000131	Kyoto	Public	0	0	0	0	0	0	0	2	1	1	0	3
D127210000274	Osaka	Public	0	0	0	0	0	0	0	0	0	1	0	1
D127210000443	Osaka	Public	0	0	1	0	0	0	0	0	0	0	0	1
D128210000264	Hyogo	Public	0	1	0	0	0	0	0	0	0	0	0	1
D228110000014	Hyogo	National	0	0	2	0	0	0	0	0	0	0	0	1
D134210000060	Hiroshima	Public	0	0	0	0	0	0	0	0	0	1	0	1
D134210000783	Hiroshima	Public	0	0	0	0	0	0	0	0	0	1	0	1
D135210000327	Yamaguchi	Public	0	0	0	0	0	0	1	0	0	0	0	1
D135210000540	Yamaguchi	Public	0	0	0	0	0	1	1	1	0	0	0	3
D136220700024	Tokushima	Public	0	0	0	0	0	0	0	0	0	0	1	1
D238220200017	Ehime	Public	0	0	0	1	0	0	0	0	0	0	0	1
D140213000164	Fukuoka	Public	0	0	0	0	0	0	0	0	0	1	1	2
D140313000046	Fukuoka	Private	0	0	0	0	0	1	0	1	1	1	1	5
D141290000287	Saga	Public	0	0	0	0	0	0	0	0	1	0	0	1
D143210000032	Kumamoto	Public	0	0	0	0	0	1	0	1	0	0	0	2
D143210000210	Kumamoto	Public	0	0	0	1	0	2	3	3	3	3	4	7
D144210000246	Oita	Public	0	0	0	0	0	0	0	0	0	0	1	1
D145220160437	Miyazaki	Public	0	0	0	0	0	0	0	1	1	1	1	4
D146210000075	Kagoshima	Public	0	0	0	0	0	1	0	0	0	0	0	1
D146210000315	Kagoshima	Public	0	0	1	0	0	0	0	0	0	0	1	2
D146210000477	Kagoshima	Public	0	0	0	0	2	1	0	0	0	0	0	2
D146210000547	Kagoshima	Public	0	0	0	0	0	0	0	1	0	0	0	1
D146310000199	Kagoshima	Private	0	0	1	0	0	0	0	0	1	0	0	2
D147220100045	Okinawa	Public	0	0	0	0	1	0	0	0	0	0	0	1
D147221100052	Okinawa	Public	1	0	0	0	0	0	0	0	0	0	0	1

Table 4: The number of schools with presenters by prefecture (The Japanese Forest Society)

		Conference Year and Location											
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Region	Prefecture	Tokyo	Hokkaido	Kanagawa	Kagoshima	Kochi	Niigata	Online	Online	Online	Online	Tokyo	Hybrid (Hokkaido)
Hokkaido	**Hokkaido**	2	7	3	2	3	2	2	0	0	0	1	4
Tohoku	**Aomori**	1	1	1	1	1	1	0	0	1	0	0	0
	Iwate	1	0	0	0	0	0	1	0	0	0	0	0
	Miyagi	0	0	0	0	0	1	1	2	1	0	0	1
	Akita	0	0	0	0	1	0	1	0	0	0	0	0
	Yamagata	0	0	0	0	0	0	0	0	0	1	0	0
	Fukushima	0	0	0	0	0	0	0	0	0	0	0	0
Kanto	**Ibaraki**	0	0	0	0	0	0	0	0	0	0	0	0
	Tochigi	0	0	0	0	0	1	1	1	1	1	1	1
	Gunma	2	0	2	1	0	0	1	2	2	2	3	1
	Saitama	4	2	2	0	0	0	1	0	8	5	1	0
	Chiba	0	0	0	0	0	0	0	0	0	0	1	0
	Tokyo	6	3	10	3	3	5	8	4	3	4	3	3
	Kanagawa	0	0	2	1	1	1	2	0	2	1	1	2
Chubu	**Niigata**	0	0	1	0	0	2	1	1	0	1	0	0
	Toyama	0	0	0	0	0	0	0	0	1	0	0	0
	Ishikawa	0	0	0	0	0	0	0	1	0	0	0	1
	Fukui	0	0	0	0	0	0	0	1	0	0	1	0
	Yamanashi	0	1	1	2	1	0	0	1	1	0	0	0
	Nagano	1	1	1	0	0	0	0	1	1	0	0	0
	Gifu	0	0	1	1	2	1	3	1	2	1	1	1
	Shizuoka	0	0	0	0	0	0	1	0	0	0	1	1
	Aichi	2	1	1	0	0	0	5	1	0	0	0	0
Kinki	**Mie**	0	0	1	1	1	1	1	0	0	1	0	0
	Shiga	0	0	0	0	1	1	1	0	0	0	0	0
	Kyoto	0	0	1	1	1	0	3	3	1	1	2	1
	Osaka	0	0	0	0	0	0	0	0	0	1	0	1
	Hyogo	0	0	0	0	0	0	0	0	0	0	0	0
	Nara	0	0	0	0	1	1	2	1	1	0	0	0
	Wakayama	0	0	0	0	0	1	0	0	0	0	0	0
Chugoku	**Tottori**	2	1	0	0	1	2	0	0	0	1	0	0
	Shimane	0	0	0	0	0	0	0	0	0	0	0	0
	Okayama	0	1	1	1	1	0	0	1	0	0	1	0
	Hiroshima	0	0	0	0	0	0	0	1	1	1	0	0
	Yamaguchi	0	0	0	0	0	0	0	0	0	0	0	1
Shikoku	**Tokushima**	0	1	0	0	0	0	0	1	0	0	0	0
	Kagawa	0	0	0	0	0	0	0	0	1	0	0	0
	Ehime	0	0	0	0	0	0	1	0	0	0	0	0
	Kochi	2	1	0	0	1	1	0	0	0	1	1	1
Kyushu/ Okinawa	**Fukuoka**	0	0	0	0	0	0	0	0	0	0	0	0
	Saga	0	0	0	0	0	0	0	1	0	0	0	0
	Nagasaki	0	0	0	0	0	0	0	0	0	0	0	1
	Kumamoto	0	1	1	2	0	2	1	2	1	2	3	2
	Oita	0	0	0	0	0	0	0	0	0	0	0	0
	Miyazaki	0	1	0	0	0	0	0	0	0	0	0	0
	Kagoshima	0	0	0	0	0	0	0	0	0	0	0	0
	Okinawa	0	0	0	0	0	0	0	0	0	0	1	1
Number of prefectiures		10	13	15	11	14	15	19	18	16	15	15	16

Table 5: The number of schools with presenters by prefecture
(The Meteorological Society of Japan)

		Conference Year and Location										
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Region	Prefecture	Ibaraki	Tokyo	Tokyo	Ibaraki	Tokyo	Online	Online	Online	Online	Online	Hybrid (Tokyo)
Hokkaido	**Hokkaido**	0	2	1	1	1	0	1	0	0	1	0
Tohoku	**Aomori**	0	0	0	0	0	1	1	1	0	0	1
	Iwate	0	0	0	0	0	0	2	0	0	0	0
	Miyagi	0	0	0	0	0	0	0	0	0	1	1
	Akita	1	0	0	0	0	0	0	0	0	0	0
	Yamagata	0	0	0	0	0	0	1	0	0	0	0
	Fukushima	0	0	1	0	0	1	1	1	0	1	1
Kanto	**Ibaraki**	1	1	1	0	0	1	1	0	1	2	1
	Tochigi	1	0	0	0	0	1	0	1	1	0	0
	Gunma	0	0	0	2	0	0	0	0	0	0	0
	Saitama	2	0	0	1	0	2	1	0	0	0	0
	Chiba	0	0	0	0	0	0	1	1	1	0	1
	Tokyo	1	6	3	1	6	2	3	3	2	2	5
	Kanagawa	1	1	1	1	2	2	0	1	1	1	1
Chubu	**Niigata**	0	1	1	0	1	1	1	0	1	0	0
	Toyama	0	0	0	0	0	0	0	0	0	0	0
	Ishikawa	0	0	0	0	1	0	0	0	0	0	0
	Fukui	0	0	0	0	0	0	1	0	1	0	0
	Yamanashi	0	0	1	0	0	1	1	0	1	0	1
	Nagano	0	0	1	0	0	1	0	0	1	0	0
	Gifu	0	0	0	0	0	0	0	0	1	0	1
	Shizuoka	0	0	0	0	1	1	0	0	0	0	3
	Aichi	1	1	1	1	0	0	0	1	0	0	0
Kinki	**Mie**	0	0	0	1	0	0	0	0	0	0	0
	Shiga	0	0	0	0	0	0	0	0	0	0	0
	Kyoto	0	0	0	0	0	0	0	1	1	1	0
	Osaka	0	0	1	0	0	0	0	0	0	1	0
	Hyogo	0	1	1	0	0	0	0	0	0	0	0
	Nara	0	0	0	0	0	0	0	0	0	0	0
	Wakayama	0	0	0	0	0	0	0	0	0	0	0
Chugoku	**Tottori**	0	0	0	0	0	0	0	0	0	0	0
	Shimane	0	0	0	0	0	0	0	0	0	0	0
	Okayama	0	0	0	0	0	0	0	0	0	0	0
	Hiroshima	0	0	0	0	0	0	0	0	0	2	0
	Yamaguchi	0	0	0	0	0	1	2	1	0	0	0
Shikoku	**Tokushima**	0	0	0	0	0	0	0	0	0	0	1
	Kagawa	0	0	0	0	0	0	0	0	0	0	0
	Ehime	0	0	0	1	0	0	0	0	0	0	0
	Kochi	0	0	0	0	0	0	0	0	0	0	0
Kyushu/	**Fukuoka**	0	0	0	0	0	1	0	1	1	2	2
Okinawa	**Saga**	0	0	0	0	0	0	0	0	1	0	0
	Nagasaki	0	0	0	0	0	0	0	0	0	0	0
	Kumamoto	0	0	0	1	0	2	1	2	1	1	1
	Oita	0	0	0	0	0	0	0	0	0	0	1
	Miyazaki	0	0	0	0	0	0	0	1	1	1	1
	Kagoshima	0	0	2	0	1	2	0	1	1	0	1
	Okinawa	1	0	0	0	1	0	0	0	0	0	0
Number of prefectiures		8	7	12	9	8	15	14	13	16	12	16

Several insights were obtained from these results. The number of prefectures represented was limited in the early years, but there has been a slight increasing trend over time. In particular, since the COVID-19 pandemic, the introduction of online and hybrid formats has clearly diversified the geographical distribution of participating schools. The analysis also indicates that the affiliations of presenting schools are not confined to the Tokyo metropolitan area. Although the number of schools in Tokyo appears large, many high schools in Japan are concentrated there, which almost exactly matches the trend in the number of schools present. In contrast, schools with specialized agriculture or forestry departments are predominantly located in rural regions such as Hokkaido. Accordingly, when the Japanese Forest Society held its conference in Hokkaido, the number of participating local schools increased, underscoring the importance of regional venues. Since the budget available for inquiry-based learning is likely to vary greatly across schools, travel costs may be a critical factor influencing participation decisions.

Furthermore, the data show that presentation demand exists not only among private schools but also among public schools. The proportion of private schools is particularly high in Tokyo Metropolis, where they are densely concentrated. In regional areas, there are also cases in which

public schools have made many presentations. Given Japan's shift toward inquiry-based learning in national educational guidelines, the results suggest that there may be a growing demand for research presentation opportunities among high school students, even in public schools.

Another notable finding concerns participation frequency. More than half of the schools presented only once, while approximately 20% participated repeatedly over multiple years. Given that Japanese high school programs span three years, continued participation may indicate either ongoing projects by the same student group or the inheritance of research topics between cohorts. Some schools exhibited a surge in presentations during a specific year, followed by a sharp decline, suggesting challenges in sustaining engagement. There were also cases where a school presenting across multiple years suddenly stopped presenting within a specific year. The reasons why presentations continued or stopped owing to certain factors could not be clarified in this study. This may be related to curriculum changes, the end of the grant period, and so on. Therefore, further investigation is necessary in combination with other public information.

5 Conclusion

This study examined the presence of high school student sessions across large-scale academic societies in Japan and analyzed the school affiliations of student presenters in two societies with more than a decade of experience organizing such sessions.

The findings revealed that approximately 17.1% of major academic societies host sessions for high school students, indicating that opportunities for student presentations now extend across a wide range of specialized fields. Even societies without high school student sessions often organize workshops and outreach events for high school students, showing their openness to younger participants in academic communities. Given that applying to academic societies in unfamiliar research domains can be daunting for high school students, this data showing that Japanese academic societies welcome high school students is an important insight from the perspective of promoting high school students' research.

Additionally, the analysis of two academic societies that have held high school student sessions for over ten years revealed that presentation activities span both public and private schools and extend across Japan from Hokkaido to Kyushu highlighting a nationwide demand for student research dissemination. However, notable disparities were observed in the frequency and continuity of participation among schools. Some schools presented consistently across multiple years, while others appeared only once. These findings suggest the need to investigate the factors that enable sustained participation and to develop support mechanisms that ensure access to academic presentation opportunities for more high school students nationwide.

Because high school student sessions are rarely indexed in academic databases, data collection required extensive manual retrieval from individual society websites, such surveys have not been conducted until now. Therefore, the findings of this study are significant for Educational Data Science and Library and Information Science as they provide insights that lead to a better understanding of academic communication among high school students. The findings of this study provide data for academic societies and universities hosting academic conferences to consider whether to open their events to high school students. These findings also serve as fundamental data for considering methods to support the inquiry-based learning of advanced high school students who use academic sources, making them educationally valuable outcomes.

In this study, the scope was limited to large academic societies with more than 2,000 members, resulting in a bias toward societies in the natural and life sciences. In Japan, academic societies in the fields of the humanities and social sciences with more than 2,000 members are extremely rare and thus were hardly included in this analysis. Therefore, in order to grasp the overall extent to which high school student sessions are held in academic societies in the humanities and social sciences fields, we plan to conduct surveys targeting academic societies with smaller memberships in the future. Furthermore, the analysis of school affiliations at high school student sessions was restricted to societies that had consistently published complete presentation programs on their websites. As a result, only a small number of societies were included in the analysis. Because many Japanese academic societies rebuild or remove conference webpages after each event, a number of presentation records have become inaccessible. To analyze the actual situation including such societies, it will be necessary to collect records from the Internet Archive and paper-based conference proceedings, thereby creating a more comprehensive dataset in the future. In the future, it is expected that a system will be developed that will allow school libraries to collect and search the proceedings of students' research presentations, similar to institutional repositories in university libraries.

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